

ABSTRACT OF THE DISCLOSURE

By a simple apparatus construction and process, it is made possible to "clean precisely" a surface at the molecular/atomic level, and the purification degree of the surface processed minutely is made into 10^{12} molecules/cm² or less. A steam-spraying nozzle is disposed such that a line slit nozzle is in a diameter direction, and mist-containing steam is sprayed onto the surface of a substrate. Thereby, particles in the steam-spraying surface (the particles were made to adhere by dipping the substrate in a solution containing polystyrene (particle diameter of 0.6 μm) or alumina (particle diameter of 0.3 μm to 0.5 μm) particles at 10^5 particles/ml.) are removed by about 90% to 95% after ten-seconds spraying, and by 99% or more, that is, to less than the detection limit of a wafer inspection device, after twenty-seconds spraying.